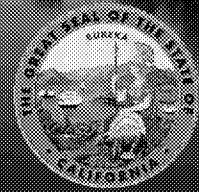


Introducing the Water Quality Trading Framework for the Laguna de Santa Rosa Watershed



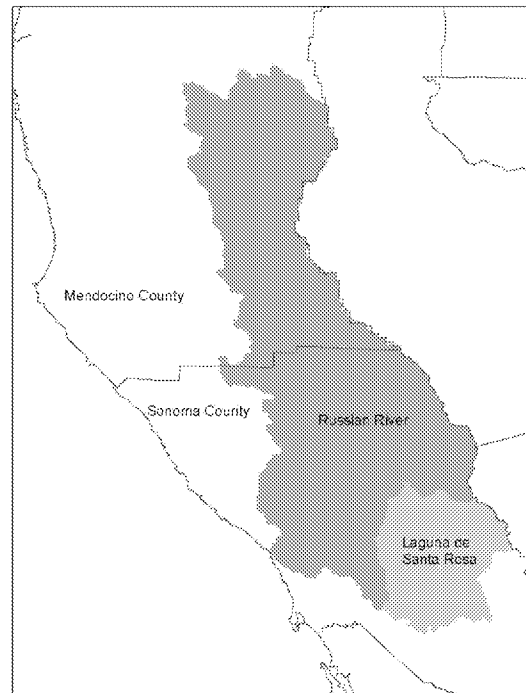
January 9, 2019
David Kuszmar & Lisa Bernard



1/9/2019

Laguna de Santa Rosa Watershed

- Largest tributary of Russian River (254 mi²)
- Metropolitan center of North Coast Region
- 70 mi² of “Important Farmland” (per CA Dept. of Conservation)
- Largest freshwater wetlands complex on northern CA coast
- “Wetland of International Importance” (per Ramsar)



1/9/2019

Historic Landscape Alterations

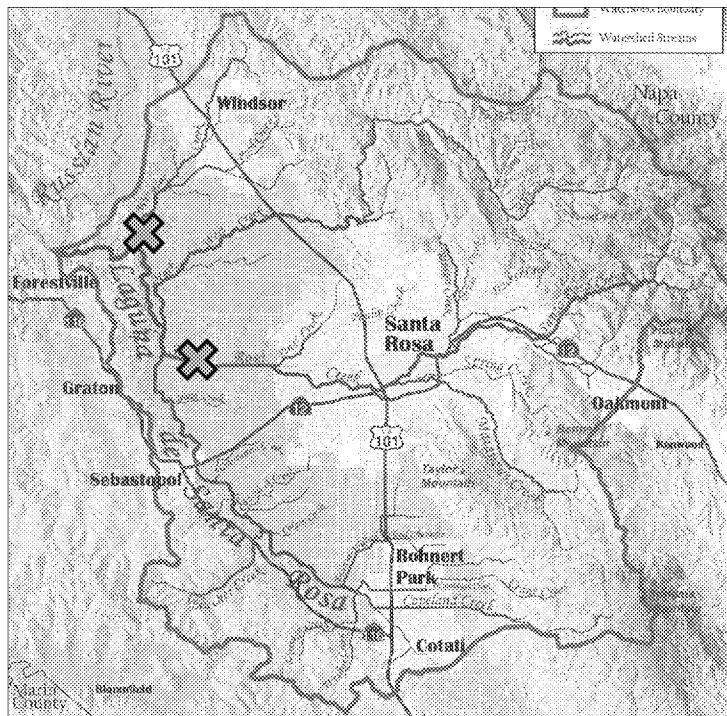
- Widespread Urban and Agricultural Development
- Elimination of Functional Wetland and Riparian Areas
- Increased Impervious Cover
- Installation of Roads, Crossings & Bridges
- Increased Channelization & Straightening of Surface Drainage Features
- Major Re-alignment of Mark West Creek

1/9/2019

Laguna de Santa Rosa Watershed

303(d) Impairments:

Phosphorus
Dissolved Oxygen
Sediment
Temperature
Pathogens
Mercury
Aluminum
Manganese



1/9/2019

Regional Board Permitting Actions in the Laguna Watershed

Available Science



Finding: No
Assimilative
Capacity

NPDES Permit



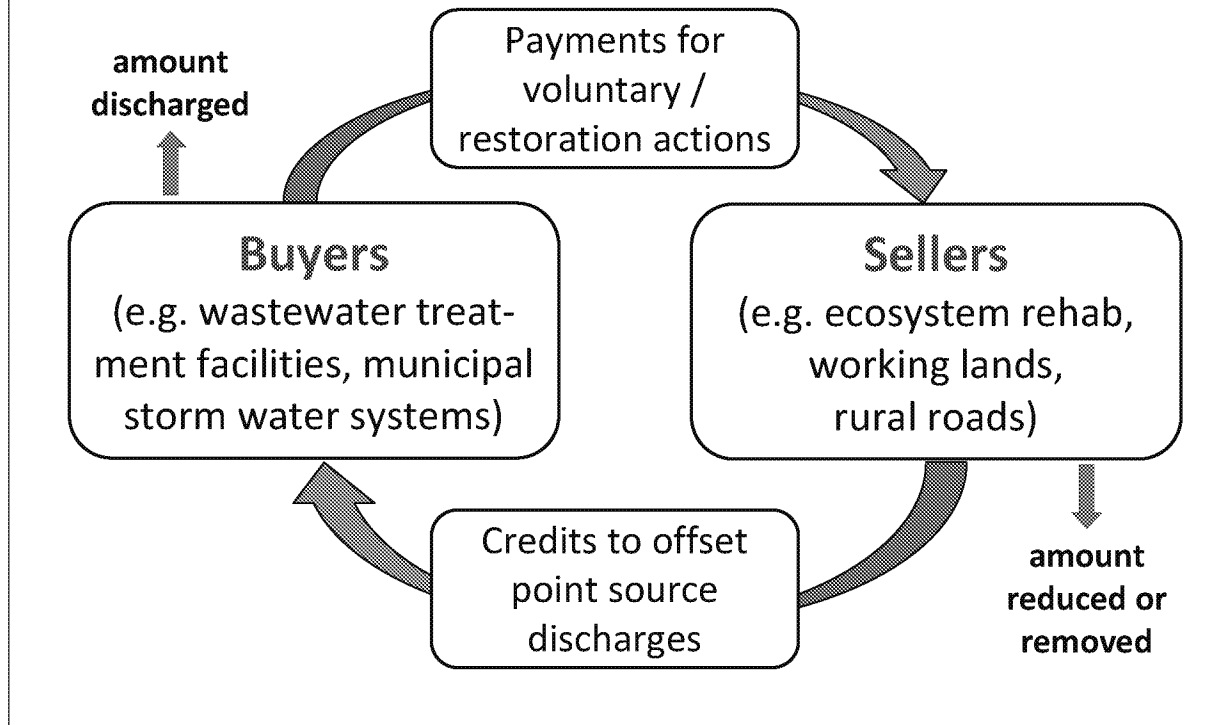
“No Net Loading”
Effluent Limits

Approved
Compliance Option



Allowances for
Pollutant Offsets /
WQ Credit Trading

Water Quality Credit Trading



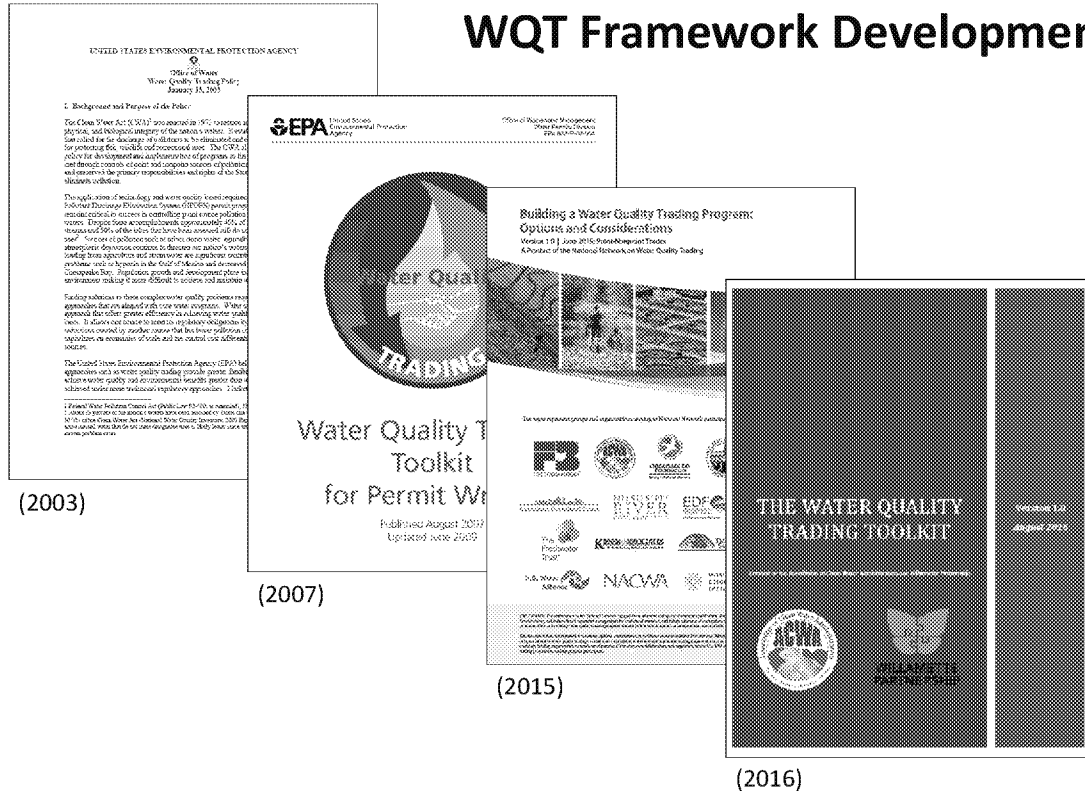
1/9/2019

Water Quality Trading Activity in the U.S.



1/9/2019

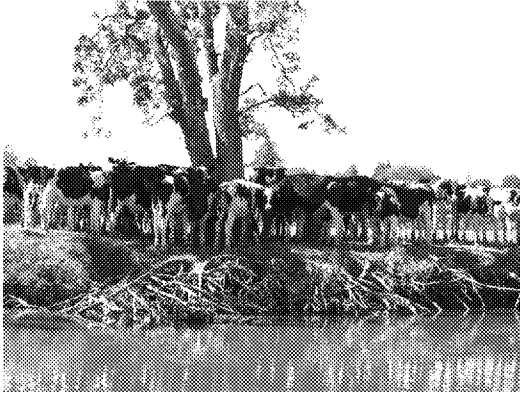
Foundational References for the WQT Framework Development



1/9/2019

Restoring Health to the Laguna

Reduce Pollutant Sources + Increase Assimilative Capacity



Diet + Exercise!

1/9/2019

Guiding Principles for WQT in the Laguna de Santa Rosa

- All actions must be supported by sound science and accomplish regulatory and environmental goals.
- Trading activities must provide sufficient accountability, transparency, accessibility, and opportunities for public involvement to ensure that promised water quality improvements are delivered.
- The water quality benefits of any trade must be realized in place, in kind, and in time.
- Trading activities must adhere to all applicable laws.

Equivalency / Avoiding Localized Impacts

"In Place"

- Trading area is Laguna watershed. (Section 2.3)

"In Kind"

- Currency is phosphorus. (Section 2.4)

"In Time"

- Credit banking periods are finite. (Section 6.3)

Trading Eligibility and Baseline

“...a pollutant reduction or removal action is eligible to generate water quality credits as long as it is not otherwise required.” (Section 3.2)

“...baseline shall be defined as the minimum level of effort or level of implementation that must be achieved before a project is eligible to generate credits.” (Section 3.2.2)

Knowing that Credits are Real

- Credit Quantification Methods (Section 4)
 - Specified by practice
 - May be based on literature, models, and/or direct measurement
- Project Verification Protocols (Section 8)
 - Initial for project implementation
 - Ongoing for project maintenance
- Monitoring and Reporting (Section 11)
 - Required for all projects

Trading Ratios (Section 5)

- Uncertainty Ratio 2:1
- Retirement Ratio 0.5:1
- Total Ratio 2.5:1

- Available Discounts:
 - Multi-benefit restoration projects
 - Projects on permanently protected lands
 - Direct measurement of pollutant reductions

Incentives for Restoration Projects

- Reduced Trading Ratios (Section 5)
 - 0.5 Retirement Ratio Discount
- Longer Project Lives (Section 6.2)
 - 20 Years + Option for Project Renewal
- Increased Credit Banking Allowances (Section 6.3)
 - 5 Years before Credits are Retired

Lessons Learned

- Extensive outreach + education is key!
 - Stakeholders distrust markets
 - Waterboards have authority to regulate CA
- Robust procedures for are essential for success.
 - Burden of program implementation is high
- Real water quality benefits can be realized.

Questions or Comments?

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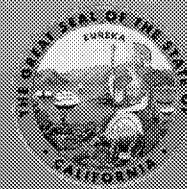
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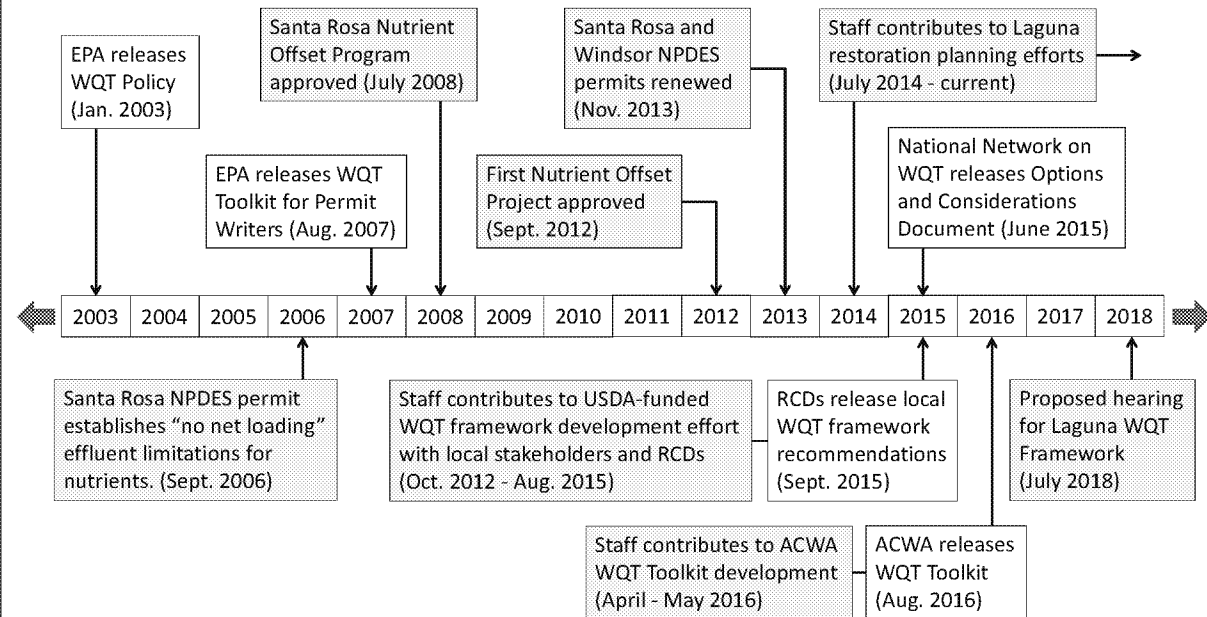


Thank you!



1/9/2019

Laguna Water Quality Trading / Santa Rosa Nutrient Offset Program Timeline



Version: 5/8/18

1/9/2019

Permit / Program History

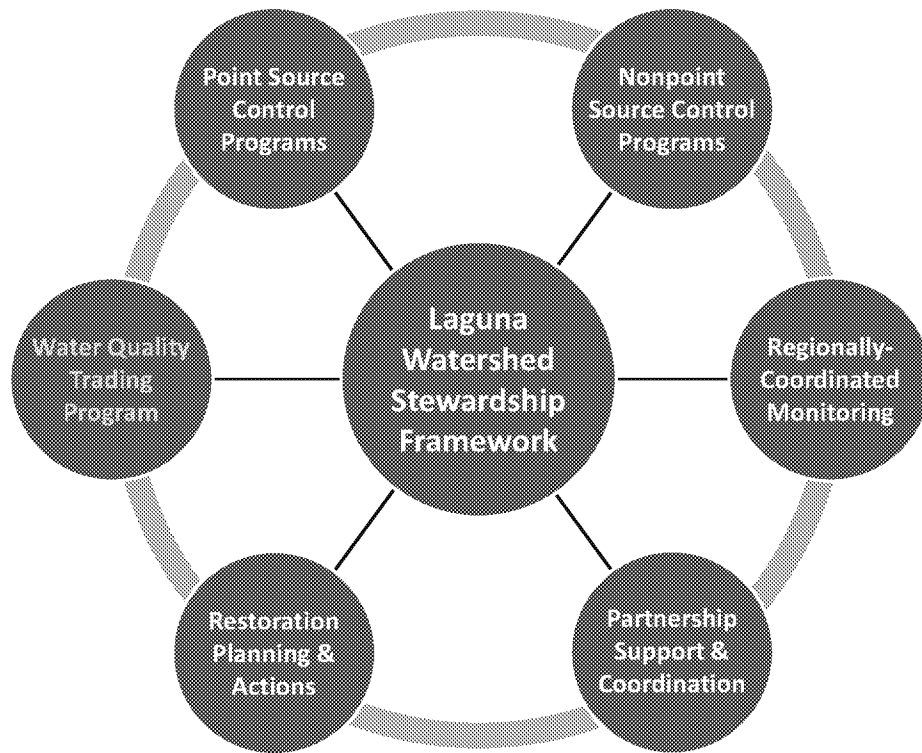
No Net Loading Effluent Limitations in NPDES Permits

- 2006: City of Santa Rosa (N & P)
- 2013: City of Santa Rosa & Town of Windsor (P)

Santa Rosa Nutrient Offset Program (2008)

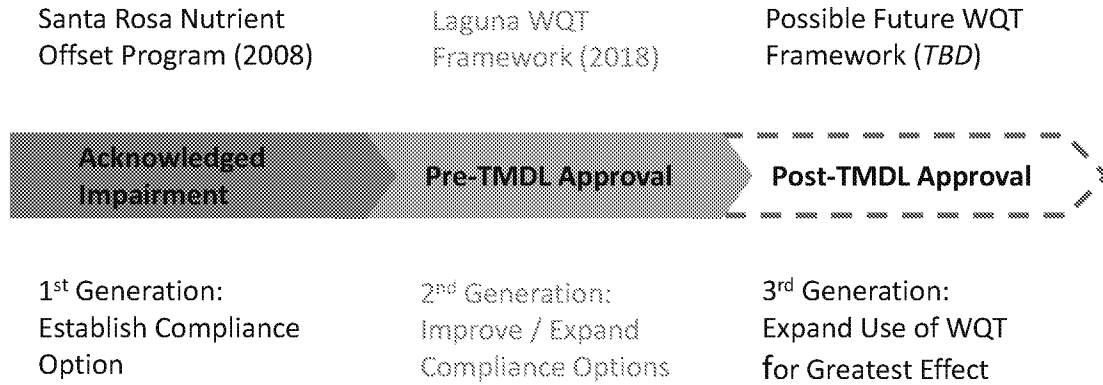
- Sept 2012: Beretta Dairy (1,689 lbs)
- Oct 2012: Pepperwood Preserve (2,678 lbs)
- Jan 2013: Ocean View Dairy (21,932 lbs)
- Compliance Achieved to Date!

Vision for Beneficial Use Recovery in the Laguna



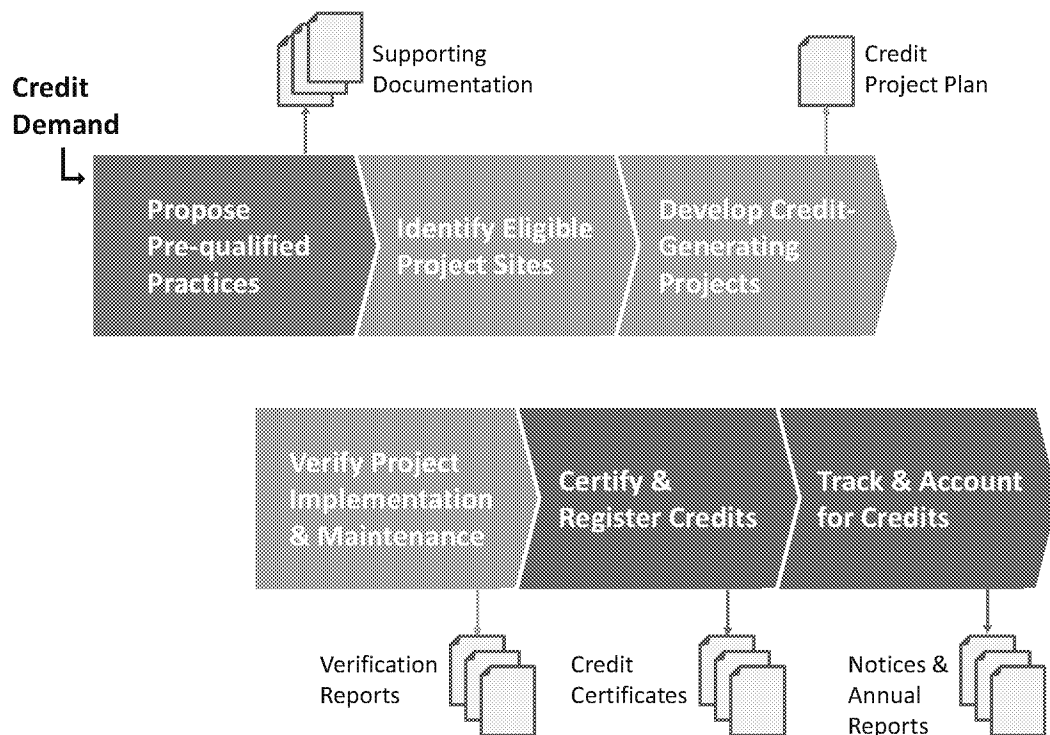
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Evolution of the Laguna Water Quality Trading (WQT) Framework



1/9/2019

Laguna Water Quality Trading Flow Chart



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